

### **REMARKS**

This responds to the Office Action dated on October 28, 2005, and the references cited therewith. Claims 27 and 34-40 are amended. Claims 1-40 are pending in this application. Applicant does not admit that the cited references are prior art and reserves the right to swear behind such references at a later date.

#### **Drawings Objections**

The Office Action object to the drawings “because they do not include the following reference sign(s) mentioned in the description: processor 102 on page 15, line 24. Applicant has amended the specification to change processor 102 to processor 104. No changes to the drawings are required. The reference sign(s) match those in the description. Accordingly, Application respectfully requests that the drawing objection be withdrawn.

#### **§101 Rejection of the Claims**

Claims 34-40 were rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Because these claims (as amended) do indeed constitute statutory subject matter, Applicant respectfully traverses this rejection of the claims.

It is asserted by the Office that claims 34-40 recite “non-statutory subject matter.” Claims 34-40 have been amended to replace “machine-readable medium” with “computer storage medium.” This amendment should address the concerns of the Examiner, and reconsideration/withdrawal of the rejection of claims 34-40 under 35 U.S.C. § 101 is respectfully requested.

#### **§103 Rejection of the Claims**

Claims 1-40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over a number of cited references. Applicant submits that the Office Action has not established a *prima facie* case of obvious vis-à-vis claims 1-40.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.<sup>1</sup>

Claims 1-3, 5-6, 12-21, and 27-40

Claims 1-3, 5-6, 12-21, and 27-40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hughes et al. (U.S. Patent No. 6,427,193) and Pitts et al. (U.S. Patent No. 4,893,248). Applicant respectfully submits that a *prima facie* case of obviousness has not been established because there is no suggestion or motivation to combine the references and because the cited references do not teach or suggest all of the claim limitations.

**No Motivation to Combine the References:** With regard to claims 1-3, 5-6, 12-21, and 27-40, Applicant submits that the Office Action does not identify any teachings of the prior art or knowledge of ordinary skill in the art that would motivate one to modify Hughes using Pitts. The Office Action indicated that Hughes and Pitts can be combined "in order to eliminate deadlock problems and allow multiple processors to complete their memory operations as taught by Hughes et al. in the last three lines of the abstract."<sup>2</sup> The Office Action did not identify a passage, in Hughes, Pitts or any other reference that teaches or suggests modifying the processors in Hughes with monitoring and reporting system for remote terminals in Pitts. Thus, the Office Action has not established a *prima facie* case of obviousness under 35 U.S.C. §103.

<sup>1</sup> M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

<sup>2</sup> Office Action at ¶8.

***Combining the References Does Not Teach All Limitations:***

With regard to claim 1, among the differences, claim 1 recites “a congestion detection logic to output a signal that indicates that the resource is congested based on receipt of a consecutive number of negative acknowledgments in response to access requests to the resource.” The Office Action indicated that Pitts discloses this limitation at column 21, lines 24-40.<sup>3</sup> Applicant respectfully traverses this assertion. This section of Pitts relates to sending of a “report message” to a remote terminal and determining whether an ACK or NAK signal is received. A report message includes “data indicative of the authorized program(s) and the identity code of the remote terminal to the central station.”<sup>4</sup> After three NAKs are received, the NAK counter is zeroed out and the report message is again transmitted:

If the report message has been transmitted the permissible number of times, i.e. the "NAK" counter is equal to three as determined by step 378, step 380 zeros the "NAK" counter before implementing a delay period and a subsequent retransmission of the report message.<sup>5</sup>

In other words, Pitts relates to repeatedly sending a report message and waiting for either an ACK or NAK. After three NAKs, a counter is cleared and a delay period is implemented. Then, the report message is again attempted to be retransmitted. Pitts does not disclose or suggest outputting a signal that indicates that a resource is congested. Rather, Pitts repeatedly sends a “report message” with a delay period between resending of the message after three NAKs. Accordingly, Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. §103 has been overcome. Because claims 2-3 depend from and further define claim 1, Applicant respectfully submits that the rejection of claims 2-3 has been overcome for at least the same reason.

With regard to claim 5, among the differences, claim 5 recites “a congestion detection logic to detect congestion of access of the data based on receipt of a consecutive number of negative acknowledgments that exceed a threshold prior to access of the data.” The Office Action indicated that Pitts at column 21, lines 21-40 disclose this limitation. As set forth above,

<sup>3</sup> Office Action at ¶7.

<sup>4</sup> Pitts at column 2, line 68- column 3, line 2.

<sup>5</sup> Pitts at column 21, lines 35-40.

Pitts does not disclose or suggest a detection of congestion. Pitts relates to repeatedly sending a “report message.” Accordingly, the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 5 under 35 U.S.C. §103 has been overcome. Because claim 6 depends from and further defines claim 5, Applicant respectfully submits that the rejection of claim 6 has been overcome for at least the same reason.

With regard to claim 12, among the differences, claim 12 recites “wherein the first processor includes a congestion detection logic to detect congestion of access to the data based on receipt of a consecutive number of negative acknowledgements in response to the access requests.” The Office Action indicated that Pitts at column 21, lines 21-40 disclose this limitation. As set forth above, Pitts does not disclose or suggest a detection of congestion. Pitts relates to repeatedly sending a “report message.” Accordingly, the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 12 under 35 U.S.C. §103 has been overcome. Because claims 13-16 depends from and further define claim 12, Applicant respectfully submits that the rejection of claims 13-16 has been overcome for at least the same reason.

With regard to claim 17, among the differences, claim 17 recites “a congestion detection logic to detect congestion of access of the resource based on a consecutive number of negative acknowledgements received in response to the access requests prior to receipt of a positive acknowledgment in response to one of the access requests within a first time period.” The Office Action indicated that this limitation is disclosed by Pitts at column 21, lines 24-40. As described above, this section of Pitts relates to repeatedly sending a report message and waiting for either an ACK or NAK. This section of Pitts does not disclose or suggest that there is congestion detected if a number of negative acknowledgements are received in a given time period. Accordingly, Applicant respectfully submits that the rejection of claim 17 under 35 U.S.C. §103 has been overcome. Because claims 18-21 depend from and further define claim 17, Applicant respectfully submits that the rejection of claims 18-21 has been overcome for at least the same reason.

With regard to claims 27 and 34, among the differences, such claims, as amended, recite “receiving, by the first processor, a positive acknowledgement or a negative acknowledgement from a second processor that is associated with the memory based on one of the number of access requests.” The Office Action indicated that “Pitt et al. teaches receiving a positive acknowledgement or a negative acknowledgement, in col. 21, lines 15-23.”<sup>6</sup> However, Pitts does not disclose or suggest that a first processor receives an acknowledgement from a second processor associated with the memory. Accordingly, the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claims 27 and 34 under 35 U.S.C. §103 has been overcome. Because claims 28-30 and 35-37 depend from and further define claims 27 and 34, respectively, Applicant respectfully submits that the rejection of claims 28-30 and 35-37 has been overcome for at least the same reason.

With regard to claims 31 and 38, among the differences, such claims recite “detecting that a consecutive number of negative acknowledgements exceeds a first threshold within a time period, prior to receiving a positive acknowledgments.” The Office Action indicated that this limitation is disclosed by Pitts at column 21, lines 24-40. As described above, this section of Pitts relates to repeatedly sending a report message and waiting for either an ACK or NAK. This section of Pitts does not disclose or suggest that there is congestion detected if a number of negative acknowledgements are received in a given time period. Accordingly, Applicant respectfully submits that the rejection of claims 31 and 38 under 35 U.S.C. §103 has been overcome. Because claims 32-33 and 39-40 depend from and further define claims 31 and 38, respectively, Applicant respectfully submits that the rejection of claims 32-33 and 39-40 has been overcome for at least the same reason.

#### Claims 4 and 7

Claims 4 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hughes et al. (U.S. Patent No. 6,427,193) and Pitts et al. (U.S. Patent No. 4,893,248) as applied to claims 1-3, 5-6, 12-21, and 27-40 above, and further in view of “Enhancement of IEEE 802.11 Distributed Coordination Function with Exponential Increase Exponential Decrease Backoff

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<sup>6</sup> Office Action at ¶26.

Algorithm" by Nah-Oak Song et al. In addition to the remarks set forth above regarding claims 1 and 5 from which claims 4 and 7 depend respectively, Applicant respectfully submits the following remarks.

Applicant submits that the Office Action does not identify any teachings of the prior art or knowledge of ordinary skill in the art that would motivate one to modify Hughes using Pitts and using Song. The Office Action did not identify a passage, in Hughes, Pitts, Song or any other reference that teaches or suggests modifying the processors in Hughes with monitoring and reporting system for remote terminals in Pitts and with the exponential decrease backoff algorithm in Song. Thus, the Office Action has not established a *prima facie* case of obviousness under 35 U.S.C. §103 for claims 4 and 7.

Claims 8-10 and 22-26

Claims 8-10 and 22-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hughes et al. (U.S. Patent No. 6,427,193) and Aikawa et al. (U.S. Patent No. 6,898,751).

**No Motivation to Combine the References:** With regard to claims 8-10 and 22-26, Applicant submits that the Office Action does not identify any teachings of the prior art or knowledge of ordinary skill in the art that would motivate one to modify Hughes using Aikawa. The Office Action indicated that Hughes and Aikawa can be combined "in order to reduce congestion problems, as taught by Aikawa et al. in col. 2, line 64 through col. 3, line 2. Aikawa relates to polling among computing systems. This referenced section of Aikawa indicates that "this problem will arise in any communication system that receives NAK signals and uses the polling technique."<sup>7</sup> Hughes does not disclose a system the uses NAK signals or pollings. Therefore, this section of Aikawa does not suggest being combined with Hughes. In particular, the Office Action does not identify a passage in Hughes, Aikawa or any other reference that teaches or suggests modifying the processors in Hughes with communication system in Aikawa. Thus, with regard to claims 8-10 and 22-26, the Office Action has not established a *prima facie* case of obviousness under 35 U.S.C. §103.

<sup>7</sup> Aikawa at column 2, lines 65-67.

***Combining the References Does Not Teach All Limitations:*** Moreover, with regard to claims 22-26, Applicant submits that the combining of the cited references does not teach all of the claimed limitations.

Among the differences, claim 22 recites “a congestion detection logic to detect congestion of access of a first cache line of the number of cache lines based on a ratio of a number of negative acknowledgments to a number of positive acknowledgments received in response to the access requests.” The Office Action indicated that Aikawa discloses this limitation at column 6, lines 14-20:

Aikawa et al. teaches that the congestion logic can be any statistical parameter using negative and positive acknowledgements, in col. 6, lines 14-20, where the ratio would be the most simple statistical parameter using both types of acknowledgement.<sup>8</sup>

This section of Aikawa fails to disclose the claimed limitation for multiple reasons. First, this section relates to determining a polling interval. It does not relate to detecting congestion. Second, this section of Aikawa relates to using a statistical value for NAKs for determining a polling interval. This section of Aikawa does not disclose or suggest the use of ACKs at all. Moreover, this section does not disclose or suggest a ratio of NAKs to ACKs. Accordingly, Applicant respectfully submits that the rejection of claim 22 under 35 U.S.C. §103 has been overcome. Because claims 23-26 depend from and further define claim 22, Applicant respectfully submits that the rejection of claims 23-26 has been overcome for at least the same reason.

#### Claim 11

Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hughes et al. (U.S. Patent No. 6,427,193) and Aikawa et al. (U.S. Patent No. 6,898,751) as applied to claims 8-10 and 22-26 above, and further in view of Song et al. (“Enhancement of IEEE 802.11 Distributed Coordination Function with Exponential Increase Exponential Decrease Backoff Algorithm”). In addition to the remarks set forth above regarding claim 8 from which claim 11 depends, Applicant respectfully submits the following remarks.

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<sup>8</sup> Office Action at ¶54.

With regard to claim 11, Applicant submits that the Office Action does not identify any teachings of the prior art or knowledge of ordinary skill in the art that would motivate one to modify Hughes using Aikawa and Song. In particular, the Office Action does not identify a passage in Hughes, Aikawa or any other reference that teaches or suggests modifying the processors in Hughes with communication system in Aikawa with the backoff algorithm in Song. Thus, the Office Action has not established a *prima facie* case of obviousness under 35 U.S.C. §103.

### CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 371-2103 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 30 day of January, 2006.

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